

**Comments of the Bay Area Municipal Transmission Group
on
Department of Energy's (DOE) Notice of Inquiry
on
Considerations for Transmission Congestion Study and Designation of
National Interest Electric Transmission Corridors**

The Cities of Alameda (Alameda Power & Telecom), Palo Alto (City of Palo Alto Utilities), and Santa Clara (Silicon Valley Power) have joined together in an informal association called the Bay Area Municipal Transmission Group (BAMx). The primary objective of BAMx is to advocate for reliable electric supply to and within the Greater San Francisco Bay Area at reasonable cost. BAMx offers the following comments in response to DOE's Federal Register Notice (FRN) of February 2, 2006 on its Notice of Inquiry (NOI)¹ seeking comments and information from the public concerning its plans for an electricity transmission congestion study (Congestion Study) and possible designation of National Interest Electric Transmission Corridor (NIETC).

The NOI raises a number of questions related to the conduct of the Congestion Study required by the Energy Policy Act of 2005. DOE expects in the Congestion Study to present an inventory of geographic areas that have important needs related to the electric transmission infrastructure. DOE also expects to identify corridors or potential projects as "generalized electricity paths between two (or more) locations, as opposed to specific routes for transmission facilities," and invited comments on defining corridors. The NOI also invited comments on draft criteria for assessing the suitability of geographic areas as NIETCs and, further, invited comments on early designation of geographic areas for which there may be a particular acute need for such early designation.

Need for Early Designation of NIETC for Corridors Increasing Import Capability into the Greater Bay Area

BAMx wishes to alert DOE of the need for early designation of the San Francisco Greater Bay Area (GBA) corridors as NIETCs. Upon review of the inventory of studies listed in Appendix A of the NOI and upon review of the documents and approaches the Western Congestion Assessment Task Force (WCATF) is developing for the DOE Congestion Study, BAMx is concerned that the corridors for increasing imports to the GBA will be overlooked. The past and current transmission planning documents listed in both the NOI and the WCATF are focused on large, inter-regional and interstate transmission needs.² As such, we are concerned that the corridors for increasing the transmission import capability in urban areas and into load pockets such as the GBA will

¹ Federal Register, Volume 71, No. 22, Thursday, February 2, 2006, pages 5660 through 5664.

² For example the WCATF December 14, 2005 meeting notes discussed the templates of inventory of past transmission studies in the West with the focus on studies that were regional in nature including past reports of Seams Steering Group-Western Interconnection (SSG-WI) and from the various sub-regional planning groups. See [WCATF Meeting Notes 14Dec05_rev1.pdf](#)

be overlooked and/or specifically excluded.³ We believe there is an acute need to address the persistent congestion into the GBA. The BAMx members have submitted comments to DOE in its National Interest Electric Transmission Bottleneck (NIETB) proceedings in 2004 nominating the GBA as a NIETB believing that such designation would assist in relieving the current transmission congestion. These comments are attached here again. There are three major existing electric transmission corridors into the GBA formed by a cut-plane electrically creating what is known as the GBA load pocket: the Tesla/Tracy to Newark Corridor, the Metcalf Corridor, and the Vaca-Dixon to Contra Costa Corridor. The BAMx members respectfully recommend to DOE that these corridors be given early designations as NIETCs. Early designation for the GBA corridors are necessary and appropriate because of the unlikelihood that the GBA would be identified in the Congestion Study being prepared by the WCATF for DOE with its primary focus on large inter-regional and interstate electric transmission congestion. To that extent, BAMx urges DOE to include in its categories of information in the Congestion Study geographic areas of interest such as large load pockets similar to the GBA. The BAMx members feel that many of the DOE geographic NIETC criteria suggested in the NOI, if applied to the GBA, would qualify these three GBA transmission corridors for NIETC designation.

Comments on Criteria Development

Draft Criterion 1: Action is needed to maintain high reliability. The BAMx members support the use of this criterion. The GBA has experienced greater risk of outages as noted in our attached comments in the NIETB proceeding. The GBA has a high reliance on inefficient and unreliable aged generating units and, due to population density, there exists a strong local resistance to additions of needed new generation. Although the GBA transmission system is planned and operated to meet WECC and NERC reliability criteria, there is a clear need to remedy existing and emerging reliability problems. The NOI draft criterion discusses metrics such as violations of NERC Planning Criteria. Other metrics as discussed in our attached NIETB comments include the concept of developing Loss of Load Probability (LOLP) index to measure the relative reliability of load pockets or regions. LOLP indices can be used for analyzing local area risks versus grid-wide risks. We recommend DOE consider the use of these probability indices to measure the relative risks of outages, particularly in load pockets, in addition to the Reliability Congestion Indices (RCI) and the Commercial Congestion Indices (CCI) on major WECC paths being proposed for recommendation by the WCATF to DOE.⁴

³ In discussions of the granularity of congestion – how far down into the system will we look for congestion, the DOE representative at the WCATF November 10, 2005 meeting stated that “although the focus (of the Congestion Study) will be primarily inter-state issues, the process will be open to intrastate facilities as they pertain to large load areas.” See draft [WCATF Meeting Notes November 2005](#)

⁴ The WCATF proposes to calculate RCI and CCI congestion indices for the major WECC paths using historic OATI OASIS information and information from the WECC EHV Data Pool. See [Proposed Congestion Indices](#), discussed at the February 2, 2006 meeting. This approach will fail to identify the utilization of paths leading to large load pockets such as the GBA since this focus will be for the major WECC paths. For this reason BAMx urges DOE to consider the GBA for early NIETC designation.

Draft Criterion 2: Action is needed to achieve economic benefits for consumers.

BAMx supports the application of this criterion. We believe the GBA would qualify under this criterion as noted in our attached NIETB comments. The BAMx members believe the GBA “needs substantial transmission improvements to enable large economic electricity transfers that would result in significant economic savings to retail electricity consumers.” The economic expansion of transmission in the GBA that reduces the need for existing “reliability-must-run” plants and/or local capacity requirements would achieve economic savings to the GBA consumers.

Draft Criterion 3: Actions are needed to ease electricity supply limitations in end markets served by a corridor, and diversify sources. Again, the BAMx members support the use of this criterion. The GBA is subject to and dependent upon “reliability-must-run” (RMR) plants and would “benefit from targeted improvements, in terms of enhanced reliability, reduced costs, or both.” RMR plants are needed in general to satisfy a transmission deficiency. BAMx provided comments in the DOE NIETB attached here addressing the inordinate high level of RMR units in the GBA. Additionally, as California addresses Resource Adequacy, including Local Capacity Requirements (LCR), proposals have been made to replace the local RMR requirement with a much larger LCR requirement, and to transfer the obligation to acquire the necessary LCR to load serving entities. This transfer of obligations could occur as early as June 2006 and would significantly increase costs over their current levels. This is another reason why the BAMx members recommend the GBA be given early designation of NIETC status as being appropriate and necessary. Further, the GBA could benefit from further supply diversification such as additional renewable generating resources.

Draft Criterion 4: Targeted actions in the area would enhance the energy independence of the United States. BAMx supports the application of this criterion. As demand increases for renewable sources of energy as well as for new and cleaner coal generation, the GBA needs access to the renewable energy sources outside of the GBA in the WECC region and potentially the new sources of coal. Expanding transmission capacity into GBA will enable the GBA load center to contract for these new sources of clean and diversified energy thereby improving this nation’s domestic fuel independence. Relieving the GBA congestion will reduce fossil fuel consumption and depletion, and also reduce dependence on foreign energy sources such as imported oil or liquefied natural gas, by shifting generation not only to renewable resources, but also away from less efficient fossil fuel generation to more efficient plants. Large load centers such as the GBA would have a great impact in fostering more renewable energy since long term contracts are necessary for entities to finance and build new sources of renewable generation. Increasing the import capacity into the GBA would open the door for these needed long term contracts. Connecting renewable/alternative generation to the grid is ineffective unless that energy is then deliverable to load centers such as the GBA.

Draft Criterion 5: Targeted actions in the area would further national energy policy. Although no explanation was provided in the NOI other than indicating that the national energy policy was one of the five stated considerations listed in Section 216(b) of the FPA for conducting the Congestion Study in identifying candidate areas for

NIETC designation, the BAMx members support including this as a criterion. Increasing the transmission import capability into the GBA would diversify the energy resources available to GBA end users and would lead to enhancement of national security and energy independence. Relieving congestion has environmental benefits by shifting generation away from existing dirtier generating plants to cleaner resources. Also, relieving congestion will reduce opportunities and incentives for market manipulation; it will also help open up the grid to effective wholesale competition, by enabling more entities to have economical access to the grid.

Draft Criterion 6: Targeted actions in the area are needed to enhance the reliability of electricity supplies to critical loads and facilities and reduce the vulnerability of such critical loads or the electricity infrastructure to natural disasters or malicious acts. BAMx supports the use of this criterion. As mentioned above the GBA load pocket is formed by the cut-plane across the three existing transmission corridors. The reliability of the GBA is highly dependent on these critical transmission facilities to reliably supply the load requirements of the GBA. These existing transmission facilities rights-of-way and corridors are being encroached by rapid housing development in both the GBA and the Central Valley of California. The GBA needs transmission corridors identified and protected to be able to serve its diverse load in a reliable and economical manner. Other critical infrastructure within the GBA includes RMR plants already mentioned in Criterion 3 above. Numerous high tech companies located in the GBA are sensitive to voltage fluctuations and power outages, consisting of both power quality and reliability. Additionally, BAMx members have customers throughout the GBA that have issues regarding power supply/voltage stability in certain high tech and industrial companies. The GBA hosts many different pockets of critical and vulnerable loads such as the San Francisco financial markets, high tech manufacturing, internet telecommunications and server farms in Silicon Valley, all are critical to the national economy and all of which would be vulnerable to both reliability issues and growth constraints without new transmission corridors.

Draft Criterion 7: The area's projected need (or needs) is not unduly contingent on uncertainties associated with analytic assumptions, e.g., assumption about future prices for generation fuels, demand growth in load centers, the location of new generation facilities, or the cost of new generation technologies. BAMx members do not object to the use of this criterion as it may help identify needs based on speculative planning assumptions. The GBA reliance on RMR plants have been well documented by the CAISO and the costs have been real and current as mentioned in our attached NIETB comments. The GBA uncertainties deal more with the question of whether the existing transmission owners will be able to fix the identified transmission deficiencies and whether additional local generation can be added as opposed to the more traditional analytic planning assumption uncertainties. Additionally, there are uncertainties surrounding the status of several new GBA generating plants due to the plant owner's pending bankruptcy. With the pending retirement of aging local generating facilities, greater dependence on importing additional power for the GBA will be needed.

Criterion 8: The alternative means of mitigating the need in question have been addressed sufficiently. BAMx supports the use of this criterion. The substitution of local generation for adequate transmission has resulted in the GBA's reliance on RMR plants and/or requirements for local capacity requirements. In the GBA we essentially do not have much likelihood for additional generation facilities to have a tangible impact on our RMR dependence. This is one good reason that we request DOE to designate NIETCs to ensure access to generation outside of the GBA as well as from outside California.

The BAMx members thank DOE for the opportunity to submit comments on its Congestion Study and possible designation of NIETC. We trust you will consider our comments and recommendations in designating the San Francisco Greater Bay Area corridors for early NIETC designation.

Attached: Comments submitted by the BAMx cities in DOE's National Interest Electric Transmission Bottleneck proceeding dated September 17, 2004.

Copy to:

Rob Kondziolka, Chair, Western Congestion Assessment Task Force, Salt River Project
Gary DeShazo, California Independent System Operator Corporation

**Comments of the Bay Area Cities
on
Department of Energy's (DOE)
Notice of Inquiry and Opportunity to Comment
on
Designation of National Interest Electric Transmission Bottlenecks (NIETB)**

The Cities of Alameda (Alameda Power and Telecom), Palo Alto, and Santa Clara (Silicon Valley Power), hereafter called Cities, have joined together with the objective of promoting reliable electric supply to and within the Greater San Francisco Bay Area at reasonable cost. The Cities offer the following comments for DOE in response to its inquiry as published in the Federal Register Notice (FRN) of July 22, 2004 on Designation of National Interest Electric Transmission Bottlenecks (NIETB)¹. The Cities commend DOE in seeking public comments in shaping its NIETB program and on issues relating to the identification, designation and possible mitigation of NIETB. DOE has stated in its FRN that this is an initial step to identifying transmission bottlenecks and that such designation will help mitigate such bottlenecks that are a barrier to efficient operation of regional markets, threaten the safe and reliable operation of the electric system, and/or impair national security.

Comments on NIETB Criteria

The FRN requested comments on the three criteria recommended by the DOE's Electricity Advisory Board (EAB). The Cities generally concurs with the EAB's recommended three criteria for designation of NIETB. Specifically, the Cities concur with the two criteria that the "bottleneck creates a risk of widespread grid reliability problems or the likelihood that major customer load centers will be without adequate electricity supplies," and "the bottleneck creates the risk of significant consumer cost increases in electricity markets that could have serious consequences on the national or a broad regional economy or risks significant consumer cost increases over an area or region." On the latter criteria, the Cities recommend removing the words "the risk of" and "risks." Thus, the second criteria would read, "the bottleneck creates significant consumer cost increases in electricity markets that could have serious consequences on the national or a broad regional economy or significant consumer cost increases over an area or region." The bottlenecks don't just pose a risk of cost increases, but cost increases are indeed a fact. The Cities believe both of these criteria describe the transmission constrained area known as the Greater Bay Area Load Pocket in northern California.

The Greater Bay Area Meets the Criteria of Widespread Grid Reliability Problems

DOE's Transmission Bottleneck Project Report of March 19, 2003 has already identified the San Francisco Peninsula as a bottleneck with a potential for "widespread grid reliability problems." While that report was conducted by surveying the ISOs across the country, the Cities believe that the Greater Bay Area Load Pocket should be listed as having widespread grid reliability problems. Although the grid is planned and operated

¹ Federal Register, Volume 69, No. 140, Thursday, July 22, 2004, page 43833.

to meet minimum reliability criteria, the California Energy Commission has demonstrated in its 2002-2012 Electricity Outlook Final Report that the risks of power supply shortages are greater in load pockets. In the San Francisco Bay Area load pocket the risk of insufficient supply is much greater than most other areas. See illustrative table below.

	Risks (Percent)		Maximum Deficits (MW)	
	Baseline Scenario	High Load Scenario	Baseline Scenario	High Load Scenario
Transmission Zones				
South CA	1.3	4.3	1,730	5,210
North CA	0	0	0	0
San Diego	7	17	3,030	3,540
San Francisco	13.7	11	230	210
IID	7.3	18.3	280	310
LADWP	0	0	0	0
SMUD	0	0	0	0
CCENT	0	0	0	0

Source: CEC 2002-2012 Electricity Outlook Report, page 45, Table 11-3-1, Shortage Risks and Maximum Deficits by Transmission Zone

Additionally, actual events have demonstrated this higher risk of outages. On June 15, 2000 a number of power plants were off-line in the Bay Area and the transmission system was not adequate to maintain acceptable voltage levels. The California ISO implemented rolling blackouts affecting over 97,000 customers in the Bay Area and including customers in our Cities.

Although some improvements to grid planning standards specific to the Greater Bay Area have been implemented and other are being studied further, the Greater Bay Area is still recognized as a load pocket with transmission bottleneck that faces high “risks of widespread grid reliability problems.” The Cities endorse the concept of developing a Loss of Load Probability (LOLP) index to measure the relative reliability of load pockets. The DOE could use these indices to show relative reliability of load pockets or regions within a single utility or ISO. LOLP indices for deliverability and local resource adequacy requirements are used in several ISOs in the Northeast markets. The California ISO has advocated that such LOLP deliverability tests be utilized in California in analyzing local area risks versus grid-wide risks, and for demonstrating the deliverability of adequate generating supply.

The Greater Bay Area Meets the Criteria of Significant Consumer Cost Increases

In addition to meeting the higher risks for reliability problems criteria, the Greater Bay Area also has the highest level of Reliability Must Run (RMR) generating units that are

required to be designated in order to reliably operate the grid. Historically, this came about due to the former vertically integrated transmission owner's decisions substituting local generation for transmission. Additionally, the current owners of these RMR designated plants could exert market power if not contracted for under RMR agreements. As such, the Cities believe inordinate high levels of RMR units are required in the Greater Bay Area load pocket to mitigate the unacceptable potential for high price differentials and market power. Ever since the initial operation of the California ISO, the RMR requirements for the Greater Bay Area have exceeded 4,000 MW for a load of about 9,000 MW in the Greater Bay Area. For 2004 the Greater Bay Area required 4300 MW of RMR from a total grid-wide requirement of 9,155 MW of RMR for the entire ISO service area. Annual RMR costs for just the Greater Bay Area portion of the PG&E system for 2004 are estimated to exceed \$187 million.²

The following quote from the Bay Area Economic Forum³ expresses the economic costs of reliability problems to the region.

"California's experience shows the importance of reliability: In 2001, rotating outages in January through March may have cost the State as much as \$150 million of lost gross state product and imposed as much as \$300 million in economic costs on customers, based on the estimated value of service to customers. This does not include the high wholesale power-procurement costs incurred by utilities. In addition, prior analysis by the Bay Area Economic Forum and its partners indicates that sustained power shortages for the duration of a tight summer could reduce gross state product by \$2 billion and impose \$3 billion in lost value of service costs."

Source: [Bay Area Is Still Coming Up Short in Electricity, BAEF, May 2003 Report](#)

Nomination of the Greater Bay Area for NIETB Status

DOE's NIETB program should allow for consumer nominations of areas for NIETB status. The DOE July 14, 2004 bottleneck workshop invited such nominations. (Closing remarks of David Meyer in the July 14, 2004 NIETB workshop proceedings, page 24.) If consumers feel that transmission constraints prevent access to lower priced markets, then incentives and assistance for mitigating such constraints should be available. Although DOE has stated it will help mitigate such bottlenecks, the FRN did not specify what benefits would be available from such designation and how DOE would help. We have witnessed the benefits gained from national visibility in assisting the relief of the Path 15 bottleneck in California. As such, the Cities wish to nominate the Greater Bay Area as a bottleneck for NIETB designation status.

² Estimated RMR costs for the Greater Bay Area are based on figures from total estimated costs for RMR services for 2004 as filed by PG&E in the FERC Docket No. ER04-337-000 (commonly referred to as the TO7 case), Exhibit PGE-10.

³ With an economy of almost \$300 billion, the Bay Area ranks 24th in the world when compared to national economies. On a per capita basis, it ranks ahead of all national economies, including the U.S. The region is at the cutting edge of global technology, and is a leader in many key indicators of regional, global and national competitiveness. With a market of more than six million residents, the Bay Area is California's second largest and the nation's fourth largest metropolitan region. Source: [Bay Area Economic Forum: The Region](#)

Dated: September 17, 2004

The Cities thank DOE for allowing the public to provide input to help shape the NIETB program. We trust you will be considering our comments and our nomination of the Greater Bay Area Load Pocket to be designated as a National Interest Electric Bottleneck to be mitigated.